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**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017**

**Course Code: CS206**

**Course Name: OBJECT ORIENTED DESIGN AND PROGRAMMING (CS)**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions. Each carries 3 marks.*

- 1 What are advantages of using UML? (3)
- 2 Illustrate the steps involved in Java compilation. (3)
- 3 Differentiate between a class and an object. (3)
- 4 Explain briefly about method overloading with an example. (3)

**PART B**

*Answer any two questions. Each carries 9 marks.*

- 5 Represent the following entities using UML class diagram (9)  
i) Book      ii) Employee      iii) Vehicle
- 6 Construct Use Case diagrams for the following (9)  
i) ATM      ii) Library      iii) Railway reservation
- 7 Write a Java program to calculate the area of different shapes namely circle, (9)  
rectangle, and triangle using the concept of method overloading.

**PART C**

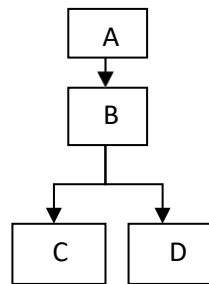
*Answer all questions. Each carries 3 marks.*

- 8 Differentiate between abstract class and an interface. (3)
- 9 What is an exception? How is it handled? (3)
- 10 Illustrate the character stream class hierarchy. (3)
- 11 What are the uses of synchronized keyword in Java? (3)

**PART D**

*Answer any two questions. Each carries 9 marks.*

- 12 a) What is a package? (2)  
b) What are the advantages of using a package? (3)  
c) Write the steps and java code for creating a package named "AdMath" containing (4)  
a method to calculate the factorial of a number passed to it.
- 13 a) What are the advantages of inheritance? (3)  
b) Show how the following inheritance hierarchy can be implemented in Java. (3)



- c) Does Java support multiple inheritance? Justify your answer. (3)
- 14 a) What are the advantages of multi-threading in Java? (3)
- b) Illustrate the two ways of creating threads in Java with the help of examples? (6)

### PART E

*Answer any four questions. Each carries 10 marks.*

- 15 a) Explain the working of the Delegation Event Model. (5)
- b) Write down the various event sources and their corresponding listeners. (5)
- 16 a) What are the features of an applet? (5)
- b) Illustrate the different parts of an applet tag. (5)
- 17 Write a Java program to check whether a given string is palindrome or not without using built in methods. (10)
- 18 Write a GUI based Java program to check whether a given number is prime or not. Use appropriate AWT components and event handling. (10)
- 19 a) What are the advantages of using Swing API? (5)
- b) List any five Containers and Components available in Swing API. (5)
- 20 Explain the steps using java code for connecting a Java program to a database using JDBC API. (10)

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